

wants of the system; the mind lacks sufficient healthful activity for appetite or taste. The system, nevertheless, needs the addition of new materials for calorification and nutrition; and the power of assimilation, although impaired, is not wholly lost. The indication for nutriment, in short, exists; but the criteria pertaining to the consciousness of the patient, by which the indication may be measured in health, are perverted or suspended by the disease, so that it becomes necessary to fulfil the indication without consulting the mental functions, viz., hunger, appetite, or taste, which were doubtless designed to secure an adequate supply of proper aliment in health."

The tendency to death, it may be added, in fever, is from asthenia. We guard against this danger in the most effectual manner by giving proper nutriment. Innutrition, coöperating with the essential morbid condition in fever, will give rise to delirium, prostration, and all those alarming symptoms which are generally supposed to spring from the disease itself.

P. S. Aug. 2, 1859.—Two new cases of typhoid fever only have occurred since the above paper was written, viz., the wife and daughter of a man who went through a very severe attack of the fever, and who was believed to have taken it from watching several nights with one of the sick. The fifty or more cases which have occurred, have been scattered over a district six or eight miles square, and all can be traced to exposure to the disease, except the first case, which was sporadic. No person else has been attacked, unless personally exposed. It is needless to add that this would not have happened, had the cause been atmospheric, or general, nor would it have been spread over so large a space, had it depended on local vegetable or animal decomposition. Moreover, it commenced in the coldest weather in January, and on the highest hill in this region of country, where, even in summer, no local cause of fevers exists, the locality, being, in all respects, most healthy. I submit, then, that the history of this epidemic goes to sustain the conclusion—now very generally adopted—that typhoid fever, though it may originate sporadically, from ordinary causes, yet may be propagated by idio-miasmatic effluvia, or personal infection.

ART. III.—*Amputation at the Shoulder-Joint.* By B. J. D. IRWIN, M. D.,
Assistant Surgeon, U. S. Army.

ON the 16th of September, 1858, I was requested to visit one of the stations of the Southern Overland Mail Company, where a number of men were reported to have been dangerously wounded. I set out at once, and arrived

at the place early the next morning, after a smart ride of one hundred and fifteen miles, but found that three of the four wounded men had already died. The history of the survivor, Silas St. John, a strong, robust, healthy young man, æt. 24, a native of New York City, was as follows: He, with three Americans and three Mexican *boys*, was engaged in keeping the mail station. On the evening of the 8th, one of the latter was placed on guard, and the remainder of the party retired to rest for the night; about midnight the Mexicans arose, and with axes and a large hammer attempted to murder their sleeping companions. St. John awoke, and hearing blows given, was in the act of springing from his bed when he received a terrible blow from an axe, which almost severed his left arm from his body, followed quickly by another that cut the fleshy part of the same arm in a shocking manner; this was succeeded by another stroke that cut through the anterior external portion of the right thigh, a short distance below the joint. By this time he succeeded in grasping his pistol, and having fired at the desperate assassins, they fled and were seen no more. One of the unfortunate victims who slept outside of the door of the rude shed never awoke; another, with his face and head frightfully chopped and mangled, lived in great agony until the evening of the next day; while a third, whose head was almost cloven in two, the brain continually oozing from the shattered skull, lingered until the *sixth* day, during which time his frenzied craving for water to quench his burning thirst was of the most heart-rending character. On the evening of the next day the mail stage came by and found St. John, the only survivor of his party, alone in a rude hovel in the wilderness, without food or water, unable to move; his wounds undressed, stiffened, and full of loathsome maggots; his companions had died one by one a horrible death, and lastly, to add to the horrors of his suffering, the hungry wolves and ravens came and banquetted upon the putrefying corpse of one of his dead companions which lay but a few feet from his desolate bed. The mental and physical sufferings which he endured are marvellous to think of. Yet he never complained nor flinched for a moment. Calm and resigned, he bore his torments with the fortitude of a martyr.

After administering to his immediate wants, one of the mail party was left with him, and remained until my arrival on the 17th, at which time his condition was as follows: he was weak and pallid from loss of blood, sleep, and constant mental and physical suffering; his disposition was cheerful, and he evinced much pleasure at the prospect of having his wounds attended to. A deep, incised wound, about eight inches in length, extending from the point of the acromion process, passing inwards, downwards, and backwards, laid open the shoulder-joint, passed through the external portion of the head of the humerus, and thence downward, splintering the bone through about four inches of its course. The wound in the thigh proved to be only a severe lesion of the soft parts, about eight inches long and three deep.

After a careful examination, I saw it would be impossible to make any effort to save the arm; I therefore determined to remove it at once. The patient was informed of the necessity for the operation, and his permission was accorded almost cheerfully. The only assistance that I could command was from three of the men forming my escort. Having made a kind of bed of some bags of corn, the patient was placed on it. One of the men having been instructed how to compress the axillary artery, and the other assistants properly disposed of, I removed the limb as follows: the patient lying on his back, with the shoulder elevated, I placed myself on the outside, and grasping the arm, I passed the catling through the original wound, thence inwards behind the fractured point of the humerus, and downwards, forming a large flap from the anterior and inner aspect of the arm, which made up for the deficiency caused by the character of the wound, which left the superior-posterior aspect of the joint entirely devoid of muscular tissue. With the aid of a scalpel, the remaining portion of the head and neck of the humerus was removed from the glenoid cavity, the granulated surface of the old wound revived, and the arteries tied as quickly as possible, after which the edges of the wound were brought together and retained by interrupted sutures and some bands of adhesive plaster. Cold-water dressing was applied, with a light bandage suitable to the part. The wound in the lower limb was dressed by inverting the large fleshy flap, and retaining it in its normal position by several interrupted sutures. Cold-water dressing and the maintenance of the thigh in a semi-flexed position were the only requisites here. Forty drops of tincture of opium were administered, and the patient placed in as comfortable a bed as the meagre circumstances of the place would permit. Chloroform was not at hand to be given, and the only stimulus obtainable was a few drachms of essence of ginger. The celerity with which the operation was performed, and the fortitude and excellent disposition of the patient, saved him from everything like protracted suffering. In the evening, the *tinct. opii* was repeated, and proper directions having been given for the dressing of his wounds, I left him, having previously sent for some wine, brandy, and other nourishment. Of the former, fʒviii, and the latter, fʒiv, were allowed him daily.

During the night of the 23d he arrived at the fort, having travelled in a common wagon sixty miles over a rough road during the two preceding days; and, as he was weak and fatigued, half a grain of sulphate of morphia was given him, and he was placed in a comfortable bed. Next morning I examined his wounds, and found the lesion at the shoulder had united by first intention, save at a point where the ligatures protruded. The wound in the thigh had partly opened. Proper dressings were applied, generous diet given, and the patient continued to convalesce without an untoward symptom. Most of the ligatures came away between the ninth and twelfth days, and on the 15th the last, that from the axillary

artery. Occasionally he suffered from frightful dreams, and imaginary pain in the lost arm. Whilst recovering, he had two attacks of quotidian intermittent fever, which readily yielded to quinine. On the 24th day after the operation he was walking about, and in less than six weeks he started for the Eastern States, restored to perfect health.

FORT BUCHANAN, ARIZONA, April 10th, 1859.

ART. IV.—*Vesico-Vaginal Fistula.* By C. S. FENNER, M. D.,
of Memphis, Tenn.

THE operation for the cure of vesico-vaginal fistula has now become fully established. For this grand surgical triumph we are indebted to the skill and persevering energy of Dr. J. M. Sims. It was accomplished only after years of intense application, much reflection, and many ineffectual attempts, each of which stimulated him to renewed exertions, and suggested to his mind changes and improvements, until success crowned his efforts, and placed him before the world as one of the benefactors of the nineteenth century.

Since the publication of Dr. Sims's first successful cases, the only material changes or improvements in the operation have been in the manner of fastening the sutures. Dr. S. has abandoned his "clasp suture," and adopted simply the "twisted interrupted suture." Dr. Bozeman uses a plate of lead perforated with holes, through which he draws the ends of the wire and fastens them; denominating it the "button suture." I have, on two occasions, used what may be called the single shot suture, passing both ends of the wire through a perforation in a No. 6 shot, and forcing it down on the wire until the denuded parts were brought in contact; then fastening it, cutting off the wire, and turning the ends down in opposite directions over the shot. This method of holding the suture in place is similar to that used by Dr. Bozeman in fastening the wire after it is passed through the perforation in his button.

Within the last few months, I have operated on four cases of vesico-vaginal fistula, a report of which I give below:—

CASE I.—Maria, a servant girl, aged 18 years, came under my charge, Oct. 3d, 1858, with vesico-vaginal fistula of ten months' standing; was delivered of her first child after a difficult labour requiring the aid of forceps; child stillborn.

Examination.—Found an oval fistula, of sufficient size to admit the end of the little finger, situated in the left side of the vesical trigone.

Operation.—Assisted by my friend, Dr. W. B. Wright, I freshened the edges, introduced five silver sutures, and brought the parts together by simply twisting the ends of the wire, as recommended by Dr. Sims. The